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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/625,345	07/25/00	SPIVEY	P LE9-00-022

021972 MM92/1101  
LEXMARK INTERNATIONAL INC  
INTELLECTUAL PROPERTY LAW DEPARTMENT  
740 WEST NEW CIRCLE ROAD  
LEXINGTON KY 40550

EXAMINER	
TRAN, L	
ART UNIT	PAPER NUMBER

2853

DATE MAILED:

11/01/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No.

09/625,345

Applicant(s)

SPIVEY ET AL.

Examiner

Ly T TRAN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9/24/01.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15, 17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15, 17 and 19-21 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-14 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "at least one via comprises a plurality of vias" doesn't make sense.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 8-12, 15 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi (USPN 6033581).

With respect to claim 1 and 9, Kobayashi disclose:

- A heater chip (Fig. 6: element 1) includes a backside with at least one cavity (Fig.6, column 4: line 21-22).
- A substrate associated with the backside of the heater chip (Fig. 6: element 6).

- Adhesive at least partially disposed within at least one cavity and on the backside of the heater chip, so as to attach the chip to the substrate (Fig.6: element 9, Column 5: line 43-53).

With respect to claims 2 and 10 Kobayashi discloses that at least one cavity comprises at least one trench (Fig. 2)

With respect to claims 3 and 11, Kobayashi discloses that the heater chip includes at least one ink via (Fig.2: element 2, Column 5: line 13-14).

With respect to claims 4 and 12, Kobayashi discloses that at least one trench substantially surrounds each via (Fig. 2).

With respect to claim 5, Kobayashi discloses that at least one via comprises a plurality of vias and the adhesive being configured for preventing fluid communication between the vias and the substrate (Fig. 4+6).

The steps of the method of claims 15, 19 and 20 are deemed to be rendered inherent in view of the functions of the structure discussed above.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-7, 13-14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (USPN 6033,581) in view of Brandon et al. (USPN 5,751,324).

With respect to claim 6-7, Kobayashi teach that the heater chip includes at least one outside edge (Fig. 6).

However, Kobayashi fail to teach at least one trench extending to at least one outside edge to thereby form at least one vent and at least one vent is configured for allowing the adhesive to outgas during curing.

Brandon et al. teaches at least one trench (Fig.4: element 44+46) extending to at least one outside edge to thereby form at least one vent and at least one vent is configured for allowing the adhesive to outgas during curing (Column 2: line 61-63).

While Brandon does not teach providing the trenches in a heater chip, it does provide the general teaching to one of ordinary skill in the art of providing trenches extending to at least one outside edge at a bonding site for the purpose of allowing the adhesive to outgas during curing.

It would have been obvious to one having skill in the art at the time the invention was made to have provided the invention of Kobayashi with at least one trench extending to at least one outside edge to thereby form at least one vent and at least one vent is configured for allowing the adhesive to outgas during curing as taught by Brandon et al. The motivation of doing so is the gas produced during of the adhesive is vented to the outside ambient environment.

The steps of the method of claims 13-14 and 21 are deemed to be rendered obvious in view of the functions of the structure discussed above.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (USPN 6,033,581) in view of Mey et al. (USPN 5,821,972).

Kobayashi discloses the claimed invention except the forming a cavity using dicing or laser ablation. Mey et al. shows that cutting using a diamond saw and laser ablation (Column 4: line 25-47) is an equivalent structure known in the art. Therefore, because these two structures were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute diamond saw for laser ablation.

***Allowable Subject Matter***

5. ~~Claims 15, 17, 19-21 are allowed.~~

6. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 8 appears to be allowable over the prior art of record because at least prior art has not been found to anticipate the adhesive is substantially entirely disposed within at least one cavity.

***Response to Arguments***

7. Applicant's arguments filed 07/25/00 have been fully considered but they are not persuasive.

Applicant's argument that the phrase "said at least one via comprises a plurality of via" indicates that the at least one via is in the form of more than one via, rather than just one via and the term "at least one via" is narrowed to exclude the possibility of there being just one via is not persuasive. The examiner cannot understand the applicant's explanation and cannot define one via comprises a plurality of via.

Applicant's amendment claim 17 as using the "cutting" instead of "dicing". Refer to column 4, line 25-47 Mey et al. teaches cutting using diamond saw and laser ablation.

Therefore, Mey et al. meets the limitation of the claim.

Applicant's argument that Kobayashi does not disclose a substantially flat surface to which heater chip is adhered, a heater chip including a backside with at least one cavity, a substrate associated with the backside of the heater chip, and adhesive at least partially disposed within at least one cavity, with adhesive adhering the backside of the heater chip to the substantially flat surface of the substrate is not persuasive. Refer to figure 6 and column 4: line 21-22, Kobayashi discloses a heater chip includes a backside with at least one cavity, a substantially flat surface and a substrate associated with the backside of the heater chip. Refer to figure 6, element 9 and column 5, line 43-53, Kobayashi discloses adhesive at least partially disposed within at least one cavity, with adhesive adhering the backside of the heater chip.

Therefore, Kobayashi meets the limitation of the claim.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Ly T. Tran whose telephone number is (703)-308-0752. The examiner can normally be reached on Monday-Friday (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (703) 308-3126. The fax numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.



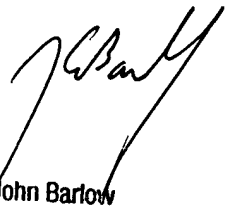
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Any inquire of a nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

LTT

October 24, 2001



John Barlow  
Supervisory Patent Examiner  
Technology Center 2800